CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SITE CLEANUP ORDER NUMBER 92-095

SITE CLEANUP REQUIREMENTS FOR:

ANADITE, INC.

FOR THE PROPERTY LOCATED AT:

1440 NORMAN AVENUE
SANTA CLARA
SANTA CLARA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter called the Board) finds that:

1. **SITE DESCRIPTION** The former Anadite facility is located at 1440 Norman Avenue in an area east of the intersection of Highway 101 and the Montague Expressway. The Site is about 15 feet above sea level on the relatively flat-lying bay plain, formerly an agricultural region now converted over to industry (Figure 1).

2. **REGULATORY STATUS** The Site is owned by Anadite, Inc., who is a wholly owned subsidiary of Industrial Equity Pacific (Limited). The former business enterprise, Anadite, Inc., operated a plating business during which time releases of chemicals may have occurred. Anadite is hereinafter referred to as a discharger because of past and present ownership and site occupancy. Staff have been advised that Industrial Equity Pacific is under separate management and control apart from Anadite and, as such, have been removed from this Order as a discharger.

   Previous site investigations confirmed that VOCs have affected the soil and the groundwater beneath the site and polluted groundwater may have migrated offsite. However, the source of these pollutants has not been determined. If additional information comes to light showing that any other parties caused or permitted any waste to be discharged or deposited on the site where it entered or could have entered into the waters of the State, the Board will consider adding that discharger to the Order.

3. **SITE HISTORY** Anadite has owned the property since 1954. Anadite had operated for some interval of time between 1954 and August, 1985, a nickel plating and hard anodizing facility, as well as performing finishing operations for the electronics industries. The site has been vacant since that

time. Before closing the facility, existing hazardous materials were removed from the property by Anadite. The types and quantities of materials, the names of waste haulers or waste disposal locations are unknown. Metal plating solutions, acids and degreaser were some of the chemicals used onsite. A 3,000 gallon acid neutralization sump used for treating the plant waste stream was removed in early 1989 during site closure activities. Sporadic environmental assessment work since that time has revealed the presence of VOCs in the shallow groundwater beneath and along the downgradient edge of the site. The lot was split into two parcels with the westerly half purchased by a masonry contractor in 1990.

Board staff had requested by use of Water Code Section 13267 additional soil and groundwater investigations be performed. The requested work was to determine the lateral and vertical extent of the groundwater pollutant plume. Several requests had been made and an acceptable workplan was submitted in May, 1990. No work has been performed in any offsite areas since that time due to problems with access onto a neighboring property. Sampling results from late 1990 from two onsite monitoring wells suggest that the groundwater pollution may be travelling offsite from the Anadite property.

4. **HYDROGEOLOGY** The Site is underlain by flood-plain deposits from the Guadalupe River and San Thomas Aquino Creek. These deposits are composed of alternating layers of grayish-brown clay, silty-clay and sandy-silt varying in thickness from 2 to 9 feet. Four groundwater monitoring wells were installed to a total depth between 19 and 21 feet below the surface. The groundwater has been shown to be between 6.5 and 8 feet below the surface with the groundwater flow to the northeast. Queried portions of the potentiometric surface shown in Figure 2 portray areas that have not been measured.

5. **SOIL AND GROUNDWATER INVESTIGATIONS** Soil and groundwater investigations were conducted at the Site beginning in November, 1987, with the installation of monitoring well MW-1 for a property assessment. A site closure plan was later required by the City of Santa Clara Fire Department. Site closure work was performed in early 1989 and consisted of the removal of a 3,000 gallon waste treatment sump, soil sampling beneath the former plating area and the construction of an additional groundwater monitoring well, MW-2.

Several VOC compounds were found in soil including TCE at 620 ppb and 1,2-DCE at 1,200 ppb. The highest concentrations of TCE were found near the former chemical storage area and the highest concentrations of DCE were found in the main building.

These soil samples were generally taken one-half foot below the surface. It is unknown if what appears to be surface discharges have impacted deeper soil layers.

Groundwater monitoring wells MW-1 and MW-2 installed in 1987 and 1989, respectively, monitor upgradient and downgradient water quality conditions (Figure 2). Two additional wells, MW-3 and MW-4, were later installed in 1990 to help assess the groundwater conditions in an upgradient portion of the site (MW-3) and the water quality immediately downgradient of the former plating area (MW-4), (Figure 2). The highest VOC concentrations detected onsite have been found in water samples from monitoring well MW-4. VOCs were found at concentrations up to 4,700 ppb for TCE, 6,600 ppb for 1,1,1-TCA, 1,500 ppb for 1,1-DCE and 97 ppb for 1,1-DCA. Extremely low levels of TCE (0.8 ppb) and 1,1-DCE (0.7 ppb) have been detected in upgradient wells MW-2 and MW-3. The data is suspect from MW-2 and MW-3 and indicate that there may not be an upgradient pollution source.

6. **INTERIM REMEDIAL ACTIONS** The waste neutralization sump was removed in 1989. No other interim remedial actions have been performed since that time.

7. **SCOPE OF THIS ORDER** This order contains tasks for determining the nature and extent of remaining soil pollution, groundwater pollution, any necessary interim remedial actions, and for the proposal and implementation of final remedial actions. These tasks are necessary to alleviate the threat to the environment posed by existing groundwater pollution, the potential migration of the groundwater plume of pollutants, and to provide a substantive technical basis for designing and evaluating the effectiveness of final cleanup alternatives.

8. The Board adopted a revised Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) on December 17, 1986. The Basin Plan contains water quality objectives and beneficial uses for South San Francisco Bay and contiguous surface and groundwaters.

9. The existing and potential beneficial uses of the groundwater underlying and adjacent to the facility include:

   a. Industrial process water supply
   b. Industrial service water supply
   c. Municipal and Domestic water supply
   d. Agricultural water supply

10. The discharger has caused or permitted, and threatens to cause or permit waste to be discharged or deposited where it is or

probably will be discharged to waters of the State and create or threaten to create a condition of pollution or nuisance.

11. This action is an order to enforce the laws and regulations administered by the Board. This action is categorically exempt from the provisions of the CEQA pursuant to Section 15321 of the Resources Agency Guidelines.

12. The Board has notified the discharger and interested agencies and persons of its intent under California Water Code Section 13304 to prescribe Site Cleanup Requirements for the discharge of pollutants and has provided them with the opportunity for a public hearing and an opportunity to submit their written views and recommendations.

13. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED, pursuant to Section 13304 of the California Water Code, that the discharger, its agents, successors, and assigns, shall cleanup and abate the effects described in the above findings as follows:

A. **PROHIBITIONS**

1. The discharge of wastes or hazardous materials in a manner which will degrade water quality or adversely affect the beneficial uses of the waters of the State is prohibited.

2. Further significant migration of pollutants through subsurface transport to waters of the State is prohibited.

3. Activities associated with the subsurface investigation and cleanup which will cause significant adverse migration of pollutants are prohibited.

B. **SPECIFICATIONS**

1. The storage, handling, treatment or disposal of soil or groundwater containing pollutants shall not create a nuisance as defined in Section 13050(m) of the California Water Code.

2. The discharger shall conduct site investigations and monitoring activities as needed to further define the current local hydrogeologic conditions, and the lateral and vertical extent of soil and groundwater pollution. Should monitoring results show evidence of pollutant migration, additional characterization of pollutant extent may be required.

3. The cleanup goal for source-area soil is 1 ppm for total VOCs. Alternate cleanup goals may be proposed based on site specific data. If higher levels of VOCs are proposed, the discharger must demonstrate that cleanup to 1 ppm total VOCs is infeasible, that the alternate levels will not threaten the quality of waters of the State, and that human health and the environment are protected. Additionally, if any chemicals regulated under this Order (or their degradation products) are left in the soil above proposed cleanup levels, a program of continued groundwater monitoring may be required. Final cleanup goals for source-area soils will be approved by the Executive Officer.

4. Final cleanup goals for polluted groundwater, onsite and offsite, shall be in accordance with State Water Resources Control Board Resolution No. 68-16, Statement of Policy with Respect to Maintaining High Quality of Waters in California. Proposed final cleanup levels shall be based on a feasibility study of remedial alternatives that compare cost, effectiveness and time to achieve cleanup goals. Cleanup levels shall also have the goal of reducing the mobility, toxicity, and volume of pollutants. Final cleanup levels shall be approved by the Regional Board.

5. If groundwater treatment is necessary and extraction and treatment is considered as an alternative, the feasibility of water reuse, reinjection, and disposal to the sanitary sewer must be evaluated. Based on the Regional Board Resolution 88-160, the discharger shall optimize, with a goal of 100%, the reclamation or reuse of groundwater extracted as a result of cleanup activities. The discharger shall not be found in violation of this Order if documented factors beyond the discharger's control prevent the dischargers from attaining this goal, provided the discharger has made a good faith effort to attain this goal. If reuse or reinjection is part of a proposed alternative, an application for Waste Discharge Requirements may be required. If discharge to waters of the State is part of a proposed alternative, an application for an NPDES permit must be completed and submitted, and must include the evaluation of the feasibility of water re-use, reinjection, and disposal to the sanitary sewer.

C. **PROVISIONS**

1. The discharger shall comply with the Prohibitions and Specifications above, in accordance with the following time schedule and tasks:

## TASKS AND COMPLETION DATES

**a. TASK: QUARTERLY GROUNDWATER SAMPLING AND ANALYSIS PLAN**

The discharger shall submit to the Executive Officer a technical report for the proposed quarterly groundwater sampling and analysis plan. Monitoring and reporting requirements for new wells and all existing wells shall conform to Provision 5.a.(1)-(10).

COMPLETION DATE: October 30, 1992

**b. TASK: CHEMICAL USE AND SITE USE HISTORY**

The discharger shall submit a technical report acceptable to the Executive Officer that contains a chemical-use and site-use history. The report shall include, but need not be limited to: 1) ownership status and lease arrangements, 2) descriptions of original site construction, facility repairs and building modifications to meet tenant needs, 3) products manufactured onsite, 4) manufacturing processes, material delivery locations and storage areas, 5) a complete list of chemicals and metals used including annual quantities of each, 6) chemical handling practices including periodicity and locations of deliveries, onsite handling practices and site-use delivery paths, 7) disposal, treatment, transfer and storage of waste solvents, acids, bases, metals and plating solutions and names of chemical waste disposal companies, 8) accident history including facility damages, spills and human injuries and, 10) detailed descriptions of water use as an element of industrial processes including influent and effluent paths, chemical dilution procedures and locations and onsite water treatment facilities.

COMPLETION DATE: October 30, 1992

**c. TASK: WORKPLAN FOR THE INVESTIGATION OF ONSITE AND OFFSITE POLLUTION**

Submit a report acceptable to the Executive Officer for an investigation of site hydrogeologic conditions and the nature and extent of soil and groundwater pollution. The report shall include, but need not be limited to, the following information: locations and construction methods for additional groundwater monitoring wells, determination of the lateral and vertical extent of onsite and offsite groundwater pollution, determination of potential pollution of any lower aquifers beneath the site, locations and proposed depths of

additional soil borings, sampling procedures and analytical methods to be used for soil and groundwater samples, establish background values for priority metals and VOCs found in the soil and groundwater, an updated map showing groundwater flow directions and elevations, proposed investigations for potential offsite sources, a summary plan of methods for the collection, storage and disposal of soil cuttings and well development water.

COMPLETION DATE: November 30, 1992

**d. TASK: REMEDIAL INVESTIGATION REPORT FOR THE ONSITE AND OFFSITE POLLUTION INVESTIGATION**

Submit a technical report acceptable to the Executive Officer that describes the results of the investigation from Provision C.1.c. The report shall include, but not limited to, the following information: new and existing soil borings and groundwater monitoring well installation logs; copies of well installation permits; tabulated results of soil and groundwater pollutant analyses; appropriately scaled maps indicating culture; soil boring and groundwater monitoring well locations; site-specific geologic cross sections; explanation of the onsite and offsite vertical and lateral extent of soil and groundwater pollution; survey of private and public water-supply wells within a half-mile radius and evaluation of their potential as conduits for the vertical migration of pollutants; description of site hydrogeologic conditions; evaluation of the extent to which soil pollution may be contributing to groundwater pollution; and, recommendations for further investigations if deemed necessary.

COMPLETION DATE: April 30, 1993

**e. TASK: PROPOSALS FOR SOIL AND GROUNDWATER REMEDIATION**

Submit a technical report acceptable to the Executive Officer which contains a plan for proposed remedial actions and implementation schedule. This report shall identify polluted soils and groundwater and evaluate the need and alternatives for the cleanup of polluted soils, control or containment of a migrating groundwater pollution plume, or, conducting pilot or treatability studies for proposed remedial actions. The proposed remedial alternatives shall reduce the volume, mobility and toxicity of pollutants. Cleanup goals shall be based on site-specific conditions and consider a risk-based approach for all pollutants that may remain in the soil or

groundwater. The report shall include a schedule for the tasks and time schedule for implementation of the recommended remedial actions.

COMPLETION DATE: October 30, 1993

**f. TASK: REPORT OF THE COMPLETION AND IMPLEMENTATION OF REMEDIAL ACTIONS**

Submit a technical report acceptable to the Executive Officer documenting implementation of final remedial measures. The report shall include: 1) selected cleanup method(s), 2) date, location and type of equipment installed, and, 3) start up date.

COMPLETION DATE: 60 days after implementation of the actions as proposed and accepted by the Executive Officer in accordance with Task C.1.e. above.

**g. TASK: SUBMIT FIVE YEAR STATUS REPORT**

Submit a technical report acceptable to the Executive Officer containing the following:

1. The results of any additional investigative work completed,
2. an evaluation of the effectiveness of installed final cleanup measures,
3. additional measures to achieve final cleanup objectives and goals, if necessary,
4. a comparison of previously estimated costs with actual costs incurred and a revised projection of necessary to achieve final cleanup goals and objectives,
5. the tasks and time schedule necessary to implement any additional final cleanup measures,
6. recommended measures for reducing Board oversight activities,
7. describe the reuse of extracted groundwater, if any,
8. evaluate and document the removal and/or cleanup of polluted soils, and groundwater.

If final cleanup objectives have not been achieved through the implementation of the approved groundwater and soil remediation plans, this report shall also contain an evaluation addressing whether it is technically feasible to

achieve these objectives by other means. If so, this report shall contain a proposal for procedures to do so. If not, this report shall contain proposed alternative cleanup objectives and rationale.

COMPLETION DATE: August 21, 1997

2. Pursuant to Section 13304 of the Water Code, the discharger is hereby notified that the Regional Board is entitled to, and may seek reimbursement for, all reasonable costs actually incurred by the Regional Board to investigate unauthorized discharges of waste and to oversee cleanup of such waste, abatement of the effects thereof, or other remedial action, required by this Order. Upon receipt of a billing statement for such costs, the discharger shall reimburse the Regional Board.

3. The submittal of technical reports evaluating interim or final remedial measures will include a projection of the cost, effectiveness, benefits, and impact on public health, welfare, and environment of each alternative measure. The remedial investigation and feasibility study shall consider the guidance provided by Subpart F of the National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR Part 300); Section 25356.1 (c) of the California Health and Safety Code; CERCLA guidance documents with reference to Remedial Investigation, Feasibility Studies, and Removal Actions; and the State Water Resources Control Board's Resolution No. 68-16, "Statement of Policy with Respect to Maintaining High Quality of Waters in California".

4. If the discharger is delayed, interrupted or prevented from meeting one or more of the completion dates specified in this Order, the dischargers shall promptly notify the Executive Officer.

5. The discharger shall submit to the Regional Board acceptable reports on compliance with the requirements of this Order, and acceptable activity monitoring reports that contain descriptions and results of work performed. These reports are to be submitted according to a program and schedule prescribed by the Regional Board and outlined below.

| QUARTER | TIME PERIOD | DUE DATE |
|---|---|---|
| 1st quarter | January - March | April 30 |
| 2nd quarter | April - June | July 30 |
| 3rd quarter | July - September | October 30 |
| 4th quarter | October - December | January 30 |

a. **ON A QUARTERLY BASIS**, technical reports groundwater monitoring shall be submitted to the Board, commencing on April 30, 1993, and covering the previous six months. The quarterly reports shall include, but need not be limited to, the following information:

1) Summary of work completed since submittal of the previous report, and work projected to be completed by the time of the next report.

2) Identification of any obstacles which may threaten compliance with the schedule of this Order and what actions are being taken to overcome these obstacles.

3) Written notification which clarifies the reasons for non-compliance with any requirement of this Order, and which proposes specific measures and a schedule to achieve compliance. This written notification shall identify work not completed that was projected for completion, and shall identify the impact of non-compliance on achieving compliance with the remaining requirements of this Order.

4) Sampling and analyses shall use EPA 8240 open scan and EPA tests for priority pollutant metals for all new wells, once for all existing wells, and once annually thereafter for all wells. Thereafter on a quarterly basis, other EPA 8000 series tests may be used, as appropriate, based upon compounds detected. The discharger may request in writing to reduce the sampling frequency and/or analytical procedures at a later date.

5) Tabulated results of quarterly water quality sampling analyses for all wells using analytical methods specified in Provision 4.a.(4), with updated groundwater pollution plume maps based on these results.

6) Quarterly updated water table and piezometric surface maps, based on the most recent water level measurements for all affected water bearing zones for all onsite and offsite wells. The first set of data shall be reported in the quarterly report due on December 30, 1992.

7) A cumulative tabulation of volume of extracted groundwater, quarterly analysis results for all groundwater extraction wells, and pounds of chemicals removed.

8) A cumulative tabulation of all well construction details, and quarterly water level measurements.

9) Reference diagrams including geologic cross-sections describing the hydrogeological setting of the Site, and appropriately scaled and detailed base maps showing the location of all monitoring wells and extraction wells, and identifying adjacent facilities and structures.

10) Identification and notification of non-compliance with groundwater monitoring requirements of this Order, as described in Provisions 4.a.2. and 4.a.3.

b. **ON AN ANNUAL BASIS**, technical reports on the progress of compliance with all requirements of this Order shall be submitted to the Board, commencing on January 15, 1994, and covering the previous year. Annual reports may include quarterly reports due concurrently. The progress reports shall include, but need not be limited to, progress on the site investigation and remedial actions, operation of interim and final remedial actions and /or systems, and the feasibility of meeting groundwater and soil cleanup goals.

6. All hydrogeological plans, specifications, reports, and documents shall be signed by or stamped with the seal of a registered geologist or professional engineer, or a certified engineering geologist .

7. All samples shall be analyzed by State certified laboratories or laboratories accepted by the Board using approved EPA methods for the type of analysis to be performed. All laboratories shall maintain Quality Assurance/Quality Control records for Board review.

8. The discharger shall maintain in good working order, and operate, as efficiently as possible, any facility or control system installed to achieve compliance with the requirements of this Order.

9. a. Copies of all correspondence, reports, and documents pertaining to compliance with the requirements of this Order shall be provided to the following agencies:

1) Regional Water Quality Control Board (1 copy, Steve Ritchie)
2) Santa Clara Valley Water District (1 copy, Tom Iwamura)

b. The discharger shall provide copies of cover letters, title page, table of contents and the executive summaries of above compliance reports - except for the annual progress reports, proposal of final cleanup objectives and actions and the report on the implemented remedial alternatives which shall be submitted in full - to the following agencies:

3) Santa Clara County Health Department (Lee Esquibel)
4) City of Santa Clara Fire Department (Dave Parker)
5) California EPA/DTSC Site Mitigation Branch (Howard Hatayama)

10. The discharger shall permit the Board or its authorized representative, in accordance with Section 13267(c) of the California Water Code:

a. Entry upon premises in which any pollution sources exist, or may potentially exist, or in which any required records are kept, which are relevant to this Order.

b. Access to copy any records required to be kept under the terms and conditions of this Order.

c. Inspection of any monitoring equipment or methodology implemented in response to this Order.

d. Sampling of any groundwater or soil which is accessible, or may become accessible, as part of any investigation or remedial action program undertaken by the discharger.

11. The discharger shall file a report on any changes in Site occupancy and ownership associated with the facility described in this Order.

12. If any hazardous substance is discharged in or on any waters of the state, or discharged and deposited where it is, or probably will be discharged in or on any waters of the state, the discharger shall report such discharge to this Regional Board, at (415) 464-1255 on weekdays during office hours from 8 a.m. to 5 p.m., and to the Office of Emergency Services at (800) 852-7550 during non-business hours. A written report shall be filed with the Regional Board within five (5) working days and shall contain information relative to: the nature of waste or pollutant, quantity involved, duration of incident, cause of spill, Spill Prevention, Control, and Countermeasure Plan (SPCC) in effect, if any, estimated size of affected area, nature of effect, corrective measures that have been taken or planned, and a schedule of these activities, and persons/agencies notified.

13. The Board will review this Order periodically and may revise the requirements when necessary.

I, Steven R. Ritchie, Executive Officer, do hereby certify that the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on August 19, 1992.

Steven R. Ritchie
Executive Officer